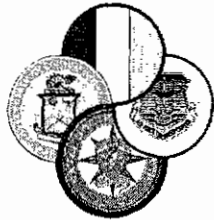


ARMY, MARINE CORPS, NAVY, AIR FORCE



## **J-FIRE**

**MULTISERVICE  
PROCEDURES FOR  
THE JOINT APPLICATION  
OF FIREPOWER**

FM 90-20  
MCRP 3-16.8B  
NWP 3-09.2  
AFTTP(I) 3-2.6

**AIR LAND SEA  
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CENTER**

**NOVEMBER 1997**

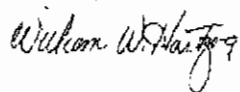
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MULTISERVICE TACTICS, TECHNIQUES, AND PROCEDURES

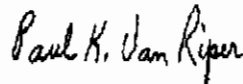
# **EXHIBIT 15**

## FOREWORD

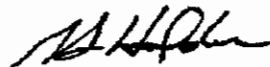
This publication has been prepared under our direction for use by our respective commands and other commands as appropriate.



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## **PREFACE**

### **1. Scope**

*J-Fire* applies to the tactical operating forces of the Army, Marine Corps, Navy, and Air Force. It is a United States (US) unilateral-only document, but it includes North Atlantic Treaty Organization (NATO) formats where appropriate. Information in *J-Fire* has been extracted from existing applicable service directives. It is intended primarily for use by members of battalion-level combat units. Navy and Marine information has been coordinated with Naval Doctrine Command (NDC) and the Marine Corps Combat Development Command (MCCDC), respectively.

### **2. Purpose**

*J-Fire* provides a pocket-sized, quick reference guide for requesting fire support. *J-Fire* contains calls for fire, a format for joint air strike requests, a format for briefing aircrews who provide close air support, structures of communication nets, and data on weapons.

### **3. Implementation Plan**

Participating service command offices of primary responsibility (OPRs) will review this publication, validate the information, and reference and incorporate it in service manuals, regulations, and curricula as follows:

**Army.** The Army will incorporate the procedures in this publication in US Army training and doctrinal publications as directed by the commander, US Army Training and Doctrine Command (TRADOC). Distribution is in accordance with DA Form 12-11E.

**Marine Corps:** PCN 14400003300  
**Air Force Distribution:** F

**\*FM 90-20**  
**\*MCRP 3-16.8B**  
**\*NWP 3-09.2**  
**\*AFTTP(I) 3-2.6**

**FM 90-20** US Army Training and Doctrine Command  
 Fort Monroe, Virginia

**MCRP 3-16.8B** Marine Corps Combat Development Command  
 Quantico, Virginia

**NWP 3-09.2** Naval Doctrine Command  
 Norfolk, Virginia

**AFTTP(I) 3-2.6** Headquarters Air Force Doctrine Center  
 Maxwell Air Force Base, Alabama

**6 NOVEMBER 1997**

**J-FIRE**  
**Multiservice Procedures**  
**for the**  
**Joint Application of Firepower**

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**\* This publication supersedes FM 90-20, FMFRP 2-72, ACCP 50-28, USAFEP 50-9, PACAFP 50-28, and CINCLANTFLTINST 3330.5, 11 Feb 94.**

**v**

**Table 2. Mortar Weapons Capabilities**

GUN/ MORTAR	MAX RANGE (m)	MIN RANGE (m)	MAX RATE OF FIRE (RPM)	SUSTAIN- MENT RATE (RPM)	AMMO	FUSES
60mm	3500	70	30	20	HE, WP, ILLUM	PD, VT, TI, delay
81mm M252/ M29A1	5800/ 4790	80/70	30/25	15/8	HE, WP, ILLUM	PD, VT, TI, delay
107mm M329A2	6840	770	18	3	HE, WP, ILLUM	PD, VT, TI, delay
120mm	7200	200	15	4	HE, WP, ILLUM	PD, VT, TI, delay

**Table 3. Targets and Suggested Ammunition**

TARGETS	SHELL/FUSE
Personnel or Light Vehicles	DPICM
Covered Positions or Heavy Vehicles	DPICM
Vehicles or Personnel	HE/VT/MT
Bunkers	HE/CP
Armor, Bunkers	Copperhead

**Table 4. Artillery/Mortar Illumination Factors**

WEAPON	SHELL TYPE	HOB (m)	BURN TIME (SEC)	RATE OF FALL (m/SEC)
60mm	M83A1	160	25	6
60mm	M83A2/3	160	32	6
81mm	M301A3	600	60	6
105mm	M314A2	750	60	10
105mm	M314A3	750	70-75	10
107mm	M335	700	60	10
107mm	M335A1	700	70	10
107mm	M335A2	400	90	5
155mm	M118	750	60	10
155mm	M485A	600	120	5